SANTA CRUZ BIOTECHNOLOGY, INC.

ORP-2 siRNA (h): sc-62717

BACKGROUND

Members of the oxyserol-binding protein (OSBP) family function as intracellular lipid receptors. OSBPs are involved in lipid metabolism and signal transduction, as well as vesicle transport, and can translocate to the periphery of Golgi membranes when they are bound to oxysterols. ORPs (OSBP-related proteins) belong to a subfamily of OSBPs and consist of ORP-1 and ORP-2. The ORPs have a highly conserved OSBP-type sterol-binding region and a Pleckstrin homology domain. They strongly bind to phosphatidic acid and weakly bind to phosphatidylinositol 3-phosphate. Two isoforms of ORP-2 are produced due to alternative splicing. ORP-2 is expressed only in retina, retinal pigment epithelium choroid, pineal gland and cultured retinal pigment epithelial cells. Overexpression of ORP-2 decreases cell growth and blocks Golgi-derived vesicle transport.

REFERENCES

1. Laitinen, S., et al. 1999. Family of human oxysterol binding protein (OSBP) homologues. A novel member implicated in brain sterol metabolism. J. Lipid Res. 40: 2204-2211.
2. Xu, Y., et al. 2001. Novel members of the human oxysterol-binding protein family bind phospholipids and regulate vesicle transport. J. Biol. Chem. 276: 18407-18414.
3. Lehto, M., et al. 2001. The OSBP-related protein family in humans. J. Lipid Res. 42: 1203-1213.
4. Jaworski, C.J., et al. 2001. A family of 12 human genes containing oxysterol-binding domains. Genomics 78: 185-196.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606731. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Fairn, G.D. and McMaster, C.R. 2005. Identification and assessment of the role of a nominal phospholipid binding region of ORP1S (oxysterol-binding-protein-related protein 1 short) in the regulation of vesicular transport. Biochem. J. 387: 889-896.

CHROMOSOMAL LOCATION

Genetic locus: OSBPL2 (human) mapping to 20q13.33.

PRODUCT

ORP-2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ORP-2 shRNA Plasmid (h): sc-62717-SH and ORP-2 shRNA (h) Lentiviral Particles: sc-62717-V as alternate gene silencing products.

For independent verification of ORP-2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62717A, sc-62717B and sc-62717C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ORP-2 siRNA (h) is recommended for the inhibition of ORP-2 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ORP-2 gene expression knockdown using RT-PCR Primer: ORP-2 (h)-PR: sc-62717-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Sui, L., et al. 2001. Jab1 expression is associated with inverse expression of $p27^{kip1}$ and poor prognosis in epithelial ovarian tumors. Clin. Cancer Res. 7: 4130-4135.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.